LESSON MAKER PRO

Data Shape Detective

Find the center, spread, and shape of data.

GRADE 6 · 6.DS.A.3

6.DS.A.3 "Explain how a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape."

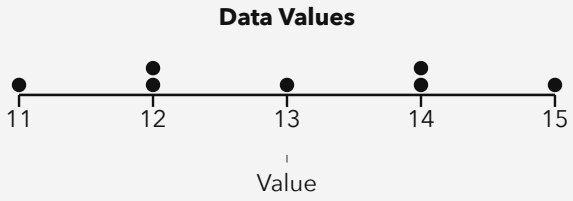
NAME _____ DATE _____

DESCRIBE A DISTRIBUTION

The median is the middle value when data are in order. The range is the greatest value minus the least value. To describe shape, notice whether the data are balanced or stretch farther in one direction.

WORKED EXAMPLE

Find the median and range of the dot plot. Describe its shape.



1. The middle of 7 values is the 4th value, 13.
2. The range is 15 - 11 = 4.
3. The dots balance on both sides of 13.

Answer: Median: 13; range: 4; shape: roughly symmetric.

PRACTICE 4 problems

1 Find the median and range: 2, 3, 3, 5, 7.

ANSWER _____

2 Find the median and range: 0, 0, 1, 1, 2, 4.

ANSWER _____

3 Find the median. Is the shape roughly symmetric? Data: 1, 2, 3, 4, 5.

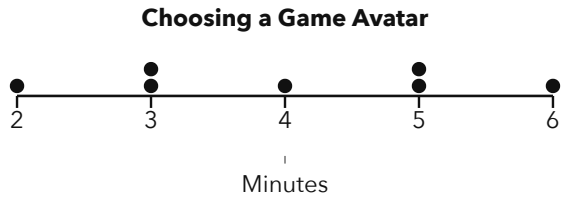
ANSWER _____

4 Find the median. Does the data stretch farther left or right? Data: 0, 0, 1, 1, 2, 3, 7.

ANSWER _____

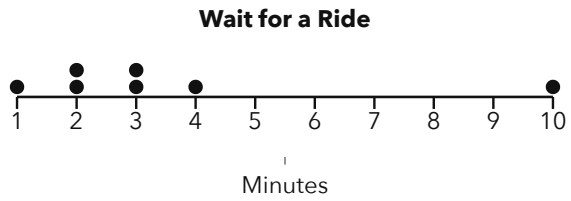
APPLY IT Show your work

1 The plot shows how many minutes seven students spent choosing a game avatar. Find the median and range. Describe the shape.



ANSWER _____

2 The plot shows how many minutes seven students waited for a ride after practice. Find the median and range. Which way does the data stretch?



ANSWER _____

CHALLENGE One step up

Set A: 0, 2, 4, 6, 8. Set B: 0, 0, 4, 7, 8. Show that their medians and ranges match. How do their shapes differ?

WORK SPACE AND ANSWER

ANSWER KEY

Data Shape Detective

GRADE 6 · 6.DS.A.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the median and range: 2, 3, 3, 5, 7.	**Median: 3; range: 5.**
2	Find the median and range: 0, 0, 1, 1, 2, 4.	**Median: 1; range: 4.**
3	Find the median. Is the shape roughly symmetric? Data: 1, 2, 3, 4, 5.	**Median: 3; yes, the data are symmetric.**
4	Find the median. Does the data stretch farther left or right? Data: 0, 0, 1, 1, 2, 3, 7.	**Median: 1; the data stretch farther right.**

PART 2 · APPLY IT

1. **Median: 4 minutes; range: 4 minutes; shape: roughly symmetric.** The 4th of 7 values is 4, and 6 - 2 = 4. The dots balance on both sides of 4.
2. **Median: 3 minutes; range: 9 minutes; the data stretch right.** The 4th of 7 values is 3, and 10 - 1 = 9. Most waits are short, but one is much longer.

CHALLENGE

Both have median 4 and range 8. Set A is evenly spaced and symmetric. Set B is unevenly spaced, with two values at 0.

Accept balanced for roughly symmetric. For shape descriptions, accept clear observations about where values gather or which direction they stretch.